RNAS REMEDIATION PRODUCTS

Freeze-Proofing a Ten-Channel System

Winters are cold at our Wisconsin warehouse. One consequence is that injection equipment can freeze during shipping or while sitting on a loading dock. The result is expensive. The proportional feeders, galvanized iron fittings, brass valves, and bronze water meters have broken as the result of freezing. It is impossible to drain all of the water from the injection systems, even with repetitive tumbling. Hence, we fill the system with propylene glycol to prevent freezing because they are stored remotely and we never know when they will be needed. The propylene glycol used is manufactured to winterize potable water supply systems in RV and marine applications. To allay any concerns, we have provided the manufacturer's ***MSDS*** for their product.

The 10-channel systems are shipped with 5 gallons of propylene glycol and a 12v pump to winterize them for return shipping. This step is not necessary from mid-spring through mid-fall. Simply return the jugs with the rest of the equipment.

The process of winterizing a 10-Channel system starts with this 12v pump.

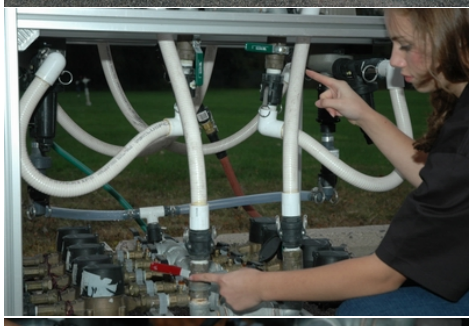
Connect the pump outlet to the injection system water inlet using the supplied 15' garden hose.

Attach the 12v pump intake hose (it has a plastic strainer at the pump end) to the pump and put the other end in a 5-gallon pail.

Run the short length of 1" braided vinyl hose from one of the bronze water meters to the 5-gallon pail. Don't worry about playing favorites; all of the water meters will get their turn.

Connect the 20' clear vinyl amendment hose directly to one of the Dosmatic™ feeders and put the other end into the 5-gallon pail. Connecting directly to the pump makes for easier cleanup than using the vinyl Y-hose that connects the two Dosmatics. This step is necessary to circulate antifreeze in the pump end of the Dosmatic. Pour 3 gallons of propylene glycol into the pail to start. You may need to add more glycol as the process continues.

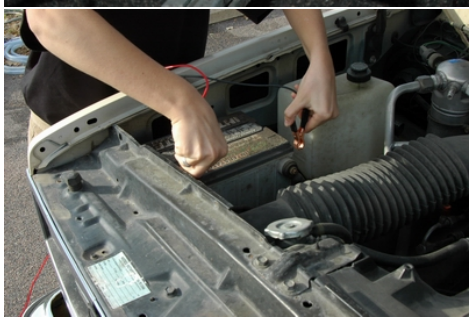
The 12v pump does not have the capacity to operate both Dosmatic feeders at the same time. Trace out the 1" white spa hoses (they cross) and use the 1" ball valves to isolate the pump that is NOT connected to the amendment hose.



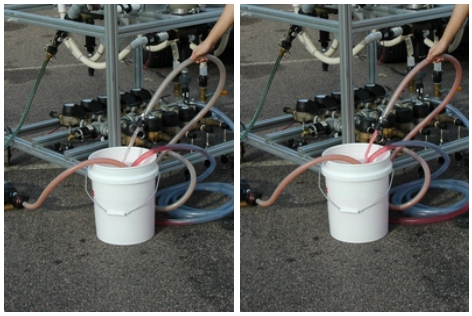
Open the shutoff valve for the mechanical water meter that is connected by the short vinyl hose to the pail. Close all of the other nine valves.

Connect the 12v pump to a 12v source.

The 12v pump is a positive displacement type. That means something will break if you start the pump without insuring that the pumped fluid has an outlet to the pail. The part that will break is usually the most expensive part in the system.



Start the pump and watch the discharge to the pail. It will take a few minutes to purge the system of water before the glycol appears at the discharge. Pump until glycol reaches the Dosmatic through the 20' amendment hose, shut off the 12v pump. Close the shutoff valve to the first mechanical flow meter, remove the short hose, and replace the cap on the meter outlet. Connect the vinyl hose to the next meter, open its shutoff valve and repeat the process for meters 2 through 5.



Then move to the other side of the system. Isolate the winterized Dosmatic by closing the 1" ball valves and removing the amendment hose. Connect the amendment hose to the other Dosmatic, trace out lines and open its shutoff valves and sequentially repeat the winterizing process for mechanical meters 6 through 10.